

WHAT IS CLAIMED IS:

1. A compound represented by the nominal general formula:



5 wherein:

- (i) A is at least one alkali metal, and $0 < a \leq 9$;
- (ii) M includes at least one redox active element, and $1 \leq b \leq 4$;
- (iii) $1 \leq c \leq 3$; and
- (v) Z is OH, a halogen, or mixtures thereof, and $0 < d \leq 5$;

10 wherein A, M, Z, a, b, c and d are selected so as to maintain electroneutrality of the compound.

2. The compound of Claim 1, wherein A is selected from the group consisting of Li, K, Na, and mixtures thereof.

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3. The compound of Claim 1, wherein A is Li.

4. The compound of Claim 1, wherein M is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , and Pb^{2+} .

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5. The compound of Claim 1, wherein M is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , and Nb^{3+} .

6. The compound of Claim 1, wherein $M = Ml_nMll_o$, $0 < o + n \leq 4$ and $0 < o, n$, wherein Ml and Mll are each independently selected from the group consisting of redox active elements and non-redox active elements, wherein at least one of Ml and Mll is redox active.
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7. The compound of Claim 6, wherein Ml and Mll are both redox active.
8. The compound of Claim 6, wherein Ml is substituted by Mll by isocharge substitution.
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9. The compound of Claim 8, wherein $M = Ml_{n-p}Mll_o$, and $o = p$.
10. The compound of Claim 8, wherein $M = Ml_{n-p}Mll_o$, and $o \neq p$.
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11. The compound of Claim 8, wherein Ml is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and Mll is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof.
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12. The compound of Claim 8, wherein Ml is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and Mll is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , and mixtures thereof.

13. The compound of Claim 8, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and MII is selected from the group consisting of Zn^{2+} , Cd^{2+} , and mixtures thereof.

14. The compound of Claim 8, wherein MI is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof, and MII is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

15. The compound of Claim 8, wherein MI is substituted by MII by aliovalent substitution.

16. The compound of Claim 15, wherein $M = MI_{n-o}MII_o$.

17. The compound of Claim 15, wherein $M = MI_{n \cdot \frac{o}{V^{MI}}} MII_{\frac{o}{V^{MII}}}$, wherein V^{MI} is the oxidation state of MI, and V^{MII} is the oxidation state of MII.

18. The compound of Claim 17, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof.

thereof, and MII is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

19. The compound of Claim 17, wherein MI is selected from the group consisting
5 of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and MII is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof.

20. The compound of Claim 17, wherein MI is selected from the group consisting
10 of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof, and MII is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof.

21. The compound of Claim 17, wherein MI is selected from the group consisting
15 of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof MII is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof.

22. The compound of Claim 1, wherein $\text{M} = \text{M1}_q\text{M2}_r\text{M3}_s$, wherein:
(a) M1 is a redox active element with a 2+ oxidation state;
20 (b) M2 is selected from the group consisting of redox and non-redox active elements with a 1+ oxidation state;
(c) M3 is selected from the group consisting of redox and non-redox active elements with a 3+ oxidation state; and

(d) at least one of q, r and s is greater than 0, and at least one of M1, M2, and M3 is redox active.

23. The compound of Claim 22, wherein $q = q - (r + s)$.

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24. The compound of Claim 22, wherein $M = M1^{\frac{q - \frac{r}{V^{M1}} - \frac{s}{V^{M1}}}{V^{M1}}} M2^{\frac{r}{V^{M2}}} M3^{\frac{s}{V^{M3}}}$, wherein V^{M1} is the oxidation state of M1, V^{M2} is the oxidation state of M2, and V^{M3} is the oxidation state of M3.

10 25. The compound of Claim 24, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

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26. The compound of Claim 24, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of Li^{1+} , K^{1+} , Na^{1+} , Ru^{1+} , Cs^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} ,

20 Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

27. The compound of Claim 24, wherein M1 is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof; M2 is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

28. The compound of Claim 24, wherein M1 is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof; M2 is selected from the group consisting of Li^{1+} , K^{1+} , Na^{1+} , Ru^{1+} , Cs^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

29. The compound of Claim 24, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} and mixtures thereof; and M3 is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

30. The compound of Claim 24, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of Li^{1+} , K^{1+} , Na^{1+} , Ru^{1+} , Cs^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

31. The compound of Claim 22, wherein $0 < q, r, s$.

32. The compound of Claim 1, wherein $c = 1$.

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33. The compound of Claim 1, wherein $c = 3$.

34. The compound of Claim 1, wherein Z is OH.

35. A battery, comprising:

a first electrode comprising a compound represented by the nominal general formula:



5 wherein:

(i) A is at least one alkali metal, and $0 < a \leq 9$;

(ii) M includes at least one redox active element, and $1 \leq b \leq 4$;

(iii) $1 \leq c \leq 3$; and

(v) Z is OH, a halogen, or mixtures thereof, and $0 < d \leq 5$; wherein A, M, Z,

10 a, b, c and d are selected so as to maintain electroneutrality of the compound;

the battery further comprising a second counter-electrode comprising an intercalation active material; and
an electrolyte.

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36. The battery of Claim 35, wherein A is selected from the group consisting of Li, K, Na, and mixtures thereof.

37. The battery of Claim 35, wherein A is Li.

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38. The battery of Claim 35, wherein M is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , and Pb^{2+} .

39. The battery of Claim 35, wherein M is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , and Nb^{3+} .

40. The battery of Claim 35, wherein $M = \text{MI}_n\text{MII}_o$, $0 < o + n \leq 4$ and $0 < o, n$,
5 wherein MI and MII are each independently selected from the group consisting of redox active elements and non-redox active elements, wherein at least one of MI and MII is redox active.

41. The battery of Claim 40, wherein MI and MII are both redox active.

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42. The battery of Claim 40, wherein MI is substituted by MII by isocharge substitution.

43. The battery of Claim 42, wherein $M = \text{MI}_{n-p}\text{MII}_o$, and $o = p$.

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44. The battery of Claim 42, wherein $M = \text{MI}_{n-p}\text{MII}_o$, and $o \neq p$.

45. The battery of Claim 42, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures
20 thereof, and MII is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof.

46. The battery of Claim 42, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and MII is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , and mixtures thereof.

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47. The battery of Claim 42, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and MII is selected from the group consisting of Zn^{2+} , Cd^{2+} , and mixtures thereof.

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48. The battery of Claim 42, wherein MI is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof, and MII is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

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49. The battery of Claim 42, wherein MI is substituted by MII by aliovalent substitution.

50. The battery of Claim 49, wherein $M = MI_{n-o}MII_o$.

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51. The battery of Claim 49, wherein $M = MI_{n-\frac{o}{V^{MI}}}MII_{\frac{o}{V^{MII}}}$, wherein V^{MI} is the oxidation state of MI, and V^{MII} is the oxidation state of MII.

52. The battery of Claim 51, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and MII is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} ,
5 In^{3+} , and mixtures thereof.

53. The battery of Claim 51, wherein MI is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof, and MII is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} ,
10 and mixtures thereof.

54. The battery of Claim 51, wherein MI is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof, and MII is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} ,
15 and mixtures thereof.

55. The battery of Claim 51, wherein MI is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof MII is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof.
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56. The battery of Claim 35, wherein $M = M_1, M_2, M_3$, wherein:

(a) M_1 is a redox active element with a 2+ oxidation state;

(b) M2 is selected from the group consisting of redox and non-redox active elements with a 1+ oxidation state;

(c) M3 is selected from the group consisting of redox and non-redox active elements with a 3+ oxidation state; and

5 (d) at least one of q, r and s is greater than 0, and at least one of M1, M2, and M3 is redox active.

57. The battery of Claim 56, wherein $q = q - (r + s)$.

10 58. The battery of Claim 56, wherein $M = M1^{\frac{r}{V^{M1}} - \frac{s}{V^{M1}}} M2^{\frac{r}{V^{M2}}} M3^{\frac{s}{V^{M3}}}$, wherein V^{M1} is the oxidation state of M1, V^{M2} is the oxidation state of M2, and V^{M3} is the oxidation state of M3.

59. The battery of Claim 58, wherein M1 is selected from the group consisting of
15 Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

20 60. The battery of Claim 58, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of Li^{1+} , K^{1+} , Na^{1+} , Ru^{1+} , Cs^{1+} , and

mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

61. The battery of Claim 58, wherein M1 is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof; M2 is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

62. The battery of Claim 58, wherein M1 is selected from the group consisting of Be^{2+} , Mg^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Ge^{2+} , and mixtures thereof; M2 is selected from the group consisting of Li^{1+} , K^{1+} , Na^{1+} , Ru^{1+} , Cs^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Ti^{3+} , V^{3+} , Cr^{3+} , Mn^{3+} , Fe^{3+} , Co^{3+} , Ni^{3+} , Mo^{3+} , Nb^{3+} , and mixtures thereof.

63. The battery of Claim 58, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures thereof; M2 is selected from the group consisting of alkali metals, Cu^{1+} , Ag^{1+} and mixtures thereof; and M3 is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

64. The battery of Claim 58, wherein M1 is selected from the group consisting of Ti^{2+} , V^{2+} , Cr^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Mo^{2+} , Si^{2+} , Sn^{2+} , Pb^{2+} , and mixtures

thereof; M2 is selected from the group consisting of Li^{1+} , K^{1+} , Na^{1+} , Ru^{1+} , Cs^{1+} , and mixtures thereof; and M3 is selected from the group consisting of Sc^{3+} , Y^{3+} , B^{3+} , Al^{3+} , Ga^{3+} , In^{3+} , and mixtures thereof.

5 65. The battery of Claim 56, wherein $0 < q, r, s$.

66. The battery of Claim 35, wherein $c = 1$.

67. The battery of Claim 35, wherein $c = 3$.

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68. The battery of Claim 35, wherein Z is OH.

69. The battery of Claim 35, wherein Z is F.

15 70. The battery of Claim 35, wherein the first electrode further comprises an electrically conductive diluent, and a binder.

71. The battery of Claim 70, wherein the electrically conductive diluent is carbon.

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72. The battery of Claim 71, wherein the electrically conductive diluent is carbon black.

73. The battery of Claim 72, wherein the first electrode comprises from 5 to 30%
25 by weight carbon black.

74. The battery of Claim 70, wherein the binder is a copolymer of polyvinylidene difluoride (PVdF) and hexafluoropropylene (HFP).

5 75. The battery of Claim 74, wherein the first electrode comprises from 3 to 20% by weight binder.

76. The battery of Claim 35, wherein the insertion active material is selected from the group consisting of a metal oxide, metal chalcogenide, carbon, graphite,
10 and mixtures thereof.

77. The battery of Claim 76, wherein the insertion active material is graphite.

78. The battery of Claim 76, wherein the first and second electrodes each
15 further comprise an electrically conductive diluent, and a binder.

79. The battery of Claim 78, wherein the electrically conductive diluent is carbon.

20 80. The battery of Claim 79, wherein the electrically conductive diluent is carbon black.

81. The battery of Claim 80, wherein the first and second electrode each
25 comprise from 5 to 30% by weight carbon black.

82. The battery of Claim 78, wherein the binder is a copolymer of polyvinylidene difluoride (PVdF) and hexafluoropropylene (HFP).

83. The battery of Claim 78, wherein the first and second electrode each
30 comprise from 3 to 20% by weight binder.

84. The battery of Claim 35, wherein the electrolyte comprises a lithium salt and a solvent selected from the group consisting of dimethyl carbonate (DMC), diethylcarbonate (DEC), dipropylcarbonate (DPC), ethylmethylcarbonate (EMC),
5 ethylene carbonate (EC), propylene carbonate (PC), butylene carbonate, lactones, esters, glymes, sulfoxides, sulfolanes, and mixtures thereof.

85. The battery of Claim 84, wherein the electrolyte comprises a solvent selected from the group consisting of EC/DMC, EC/DEC, EC/DPC and EC/EMC.
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86. The battery of Claim 84, wherein the electrolyte comprises from 5% to 65% by weight lithium salt.

87. The battery of Claim 86, wherein the electrolyte comprises from 8% to 35%
15 by weight lithium salt.